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# DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1988/1989

SUBMITTED TO CONGRESS

JANUARY 1987

AD-A184 213



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PROCUREMENT AIRCRAFT PROCUREMENT, ARMY PROGRAMS

AIRCRAFT	MISSILES
WEAPONS & TRACKED COMBAT VEHICLES	
AMMUNITION	OTHER

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DEPARTMENT OF THE ARMY  
AIRCRAFT PROCUREMENT, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1988, 1989

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1-1 January 1987

AIRCRAFT PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Appropriation Language

Program and Financing Schedule

Object Classification Schedule

1-1 January 1987

APPROPRIATION LANGUAGE

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; (\$2,762,750,000) \$2,473,959,000, of which \$201,100,000 shall be available only for the Army National Guard and Army Reserve, to remain available for obligation until September 30, (1989) 1990 and \$2,229,539,000, of which \$192,300,000 shall be available only for the Army National Guard and Army Reserve, to remain available for obligation until September 30, 1991.

1-2 January 1987

Aircraft Procurement, Army  
Program and Financing (in thousands of dollars) FISCAL YEAR 1984  
05 Jan 87

Identification code	21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)			Obligations		
		1986 actual	1987 est.	1988 est.	1986 actual	1987 est.	1988 est.
Program by activities:							
Direct program:							
00.0101	Aircraft				58,921		
00.0201	Modification of aircraft				79,821		
00.0301	Spares and repair parts				55,403		
00.0401	Support equipment and facilities				62,772		
00.9101	Total direct program				256,717		
01.0101	Reimbursable program				1,478		
10.0001	Total				258,195		
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)				-1,817		
13.0001	Trust funds(-)				426		
14.0001	Non-Federal sources(-)				24		
17.0001	Recovery of prior year obligations				-24,980		
21.4002	Unobligated balance available, start of year:				-247,775		
21.4007	For completion of prior year budget plans						
23.4002	Reprogramming from/to prior year budget plans	-15,927			12,136		
23.4002	Reduction pursuant to P.L. 99-177 in unob bal: Apr	12,136			3,791		
25.0001	Unobligated balance lapsing	3,791					
59.0001	Budget authority						

1-3 January 1987



Aircraft Procurement, Army  
Program and Financing (in Thousands of dollars) FISCAL YEAR 1985

05 Jan 87

Identification code	21-2031-0-1-051	Budget plan (amounts for PROCUREMENT actions programed)				Obligations			
		1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:									
Direct program:									
00.0101	Aircraft					91,775	32,866		
00.0201	Modification of aircraft					216,358	61,098		
00.0301	Spares and repair parts					159,617	7,081		
00.0401	Support equipment and facilities					45,016	30,764		
00.9101	Total direct program					512,766	131,809		
01.0101	Reimbursable program					898	5,803		
10.0001	Total					513,664	137,612		
Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)					-4,340			
13.0001	Trust funds(-)					4,654			
17.0001	Recovery of prior year obligations					-15,765			
21.4002	Unobligated balance available, start of year:								
21.4003	For completion of prior year budget plans								
21.4007	Available to finance new budget plans								
22.4001	Reprogramming from/to prior year budget plans								
23.4001	Unobligated balance transferred to other accounts								
23.4002	Reduction pursuant to P.L. 99-177 in unob bal: Apr								
24.4002	Unobligated balance available, end of year:								
24.4003	For completion of prior year budget plans								
24.4003	Available to finance subsequent year budget plans								
19.0001	Budget authority								

1-4 January 1987

05 Jan 87

Aircraft Procurement, Army  
Program and Financing (in Thousands of dollars) FISCAL YEAR 1986

Identification code	21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations			
		1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:									
Direct program:									
00.0101	Aircraft	1,615,435				1,323,053	159,480		132,902
00.0201	Modification of aircraft	656,512				506,429	101,435		48,648
00.0301	Spare and repair parts	732,662				550,022	128,350		54,290
00.0401	Support equipment and facilities	272,345				185,526	75,005		11,814
00.9101	Total direct program	3,276,954				2,565,030	464,270		247,654
01.0101	Reimbursable program	65,303				51,631	13,672		
10.0001	Total	3,342,257				2,616,661	477,942		247,654
Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)	-48,988				-48,988			
13.0001	Trust funds(-)	-16,315				-16,315			
Unobligated balance available, start of year:									
21.4002	For completion of prior year budget plans						-697,856		-247,654
21.4003	Available to finance new budget plans						-92,600		
21.4007	Reprogramming from/to prior year budget plans	-27,740	-92,600			27,740	-13,940		
22.4001	Unobligated balance transferred to other accounts		-13,940				78,800		
23.4001	Unobligated balance rescinded: Appropriation		78,800						
Unobligated balance available, end of year:									
24.4002	For completion of prior year budget plans	92,600				697,856	247,654		
24.4003	Available to finance subsequent year budget plans					92,600			
19.0001	Budget authority	3,341,814				3,341,814			
Budget authority:									
40.0001	Appropriation	3,351,514				3,351,514			
41.0001	Transferred to other accounts(-)	9,700				-9,700			
43.0001	Appropriation (adjusted)	3,341,814				3,341,814			

1-5 January 1987

Aircraft Procurement, Army  
Program and Financing (in thousands of dollars) FISCAL YEAR 1987 05 Jan 87

Identification code	21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations			
		1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:									
Direct program:									
00 0101	Aircraft	1,584,177					1,274,862	188,682	120,633
00 0201	Modification of aircraft	503,425					407,774	58,347	37,304
00 0301	Spare and repair parts	558,599					452,465	64,742	41,392
00 0401	Support equipment and facilities	108,649					88,006	12,592	8,051
00 9101	Total direct program	2,754,850					2,223,107	324,363	207,380
01 0101	Reimbursable program	43,800					43,800		
10 0001	Total	2,798,650					2,266,907	324,363	207,380
Financing:									
Offsetting collections from:									
11 0001	Federal funds(-)	-31,100					-31,100		
13 0001	Trust funds(-)	-9,600					-9,600		
14 0001	Non-Federal sources(-)	-3,100					-3,100		
21 4002	Unobligated balance available, start of year:								
	For completion of prior year budget plans								
24 4002	Unobligated balance available, end of year:								
	For completion of prior year budget plans								
39 0001	Budget authority	2,754,850					531,743	-531,743	207,380
							2,754,850	207,380	
Budget authority:									
40 0001	Appropriation	2,780,750					2,780,750		
41 0001	Transferred to other accounts(-)	-25,900					-25,900		
43 0001	Appropriation (adjusted)	2,754,850					2,754,850		

1-6 January 1987

Aircraft Procurement, Army  
Program and Financing (in thousands of dollars) FISCAL YEAR 1988 05 Jan 87

Identification code	21-2031-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations			
		1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:									
Direct program:									
00.0101	Aircraft			1,197,556			966,620	140,872	
00.0201	Modification of aircraft			608,308			492,729	70,503	
00.0301	Spares and repair parts			512,122			59,355		
00.0401	Support equipment and facilities			155,973			126,338	18,077	
00.9101	Total direct program			2,473,959			2,000,506	288,807	
01.0101	Reimbursable program			17,900			17,900		
10.0001	Total			2,491,859			2,018,406	288,807	
Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)			-8,800			-8,800		
13.0001	Trust funds(-)			-8,500			-8,500		
14.0001	Non-Federal sources(-)			-600			-600		
21.4002	Unobligated balance available, start of year:								
	For completion of prior year budget plans								
24.4002	Unobligated balance available, end of year:								
	For completion of prior year budget plans								
40.0001	Budget authority (appropriation)			2,473,959			473,453	184,646	
							2,473,959		

1-7 January 1987

Aircraft Procurement, Army  
Program and Financing (in thousands of dollars) FISCAL YEAR 1989

05 Jan 87

Identification code	21-2631-0-1-051	Budget plan (amounts for PROCUREMENT actions programmed)				Obligations			
		1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:									
Direct program:									
00.0101	Aircraft				712,690				582,542
00.0201	Modification of aircraft				789,653				639,619
00.0301	Spares and repair parts				553,029				439,290
00.0401	Support equipment and facilities				176,167				141,075
00.9101	Total direct program				2,229,539				1,802,526
01.0101	Reimbursable program				17,900				17,900
10.0001	Total				2,247,439				1,820,426
Financing:									
Offsetting collections from:									
11.0001	Federal funds(-)				-8,800				-8,800
13.0001	Trust funds(-)				-8,500				-8,500
14.0001	Non-Federal sources(-)				-600				-600
24.4002	Unobligated balance available, end of year:								
	For completion of prior year budget plans								427,013
40.0001	Budget authority (Appropriation)				2,229,539				2,229,539

1-8 January 1987

Aircraft Procurement, Army  
Program and Financing (in thousands of dollars) SUMMARY

05 Jan 87

Identification code	21-2031-0-1-051	Program by activities:	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations			
			1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:										
Direct program:										
00.0101		Aircraft	1,615,435	1,584,177	1,197,556	-712,690	1,473,749	1,467,208	1,288,204	844,047
00.0201		Modification of aircraft	656,512	503,425	608,308	789,653	802,408	570,307	599,724	747,476
00.0301		Spares and repair parts	732,662	558,599	512,122	553,029	765,042	587,896	533,851	540,037
00.0401		Support equipment and facilities	272,345	108,649	155,973	174,167	293,314	193,775	150,744	167,203
00.9101		Total direct program	3,276,954	2,754,850	2,473,959	2,229,539	3,334,513	2,819,186	2,572,523	2,298,713
01.0101		Reimbursable program	65,303	43,800	17,900	17,900	54,007	63,275	17,900	17,900
10.0001		Total	3,342,257	2,798,650	2,491,859	2,247,439	3,388,520	2,882,461	2,590,423	2,316,613
Financing:										
Offsetting collections from:										
11.0001		Federal funds(-)	-48,988	-31,100	-8,800	-8,800	-55,145	-31,100	-8,800	-8,800
13.0001		Trust funds(-)	-16,315	-9,600	-8,500	-8,500	-11,235	-9,600	-8,500	-8,500
14.0001		Non-Federal sources(-)		-3,100	-600	-600	-24	-3,100	-600	-600
17.0001		Recovery of prior year obligations					-40,745			
21.4002		Unobligated balance available, start of year:								
21.4003		For completion of prior year budget plans	-120,900	-108,200			-893,869	-835,468	-779,397	-680,833
21.4007		Available to finance new budget plans	-53,936	27,740			-120,900	-108,200		
22.4001		Reprogramming from/to prior year budget plans	78,323	-13,940			78,323	-13,940		
23.4001		Unobligated balance transferred to other accounts		94,400				94,400		
23.4002		Unobligated balance rescinded: Appropriation	49,382				49,382			
23.4002		Reduction pursuant to P.L. 99-177 in unob bal: App								
24.4002		Unobligated balance available, end of year:								
24.4003		For completion of prior year budget plans	108,200				835,468	779,397	680,833	611,659
25.0001		Available to finance subsequent year budget plans	3,791				108,200			
25.0001		Unobligated balance lapsing					3,791			
39.0001		Budget authority	3,341,814	2,754,850	2,473,959	2,229,539	3,341,814	2,754,850	2,473,959	2,229,539
Budget authority:										
40.0001		Appropriation	3,351,514	2,780,750	2,473,959	2,229,539	3,351,514	2,780,750	2,473,959	2,229,539
41.0001		Transferred to other accounts(-)	-9,700	-25,900			-9,700	-25,900		
43.0001		Appropriation (adjusted)	3,341,814	2,754,850	2,473,959	2,229,539	3,341,814	2,754,850	2,473,959	2,229,539
Relation of obligations to outlays:										
71.0001		Obligations incurred, net	3,322,164				3,322,164	2,838,661	2,572,523	2,298,713
72.0001		Obligated balance, start of year	4,512,256				4,512,256	4,792,788	4,524,249	4,245,772
74.0001		Obligated balance, end of year	-4,792,788				-4,792,788	-4,524,249	-4,245,772	-3,979,685
77.0001		Adjustments in expired accounts	-14,090				-14,090			
78.0001		Adjustments in unexpired accounts	-40,745				-40,745			
40.0001		Outlays	2,986,797				2,986,797	3,107,200	2,851,000	2,564,800

Aircraft Procurement, Army  
Object Classification (in thousands of dollars) SUMMARY

05 Jan 87

Identification code	21-2031-0-1-051	1986 actual	1987 est.	1988 est.	1989 est.
<b>Direct obligations:</b>					
<b>Other services:</b>					
125.004	Other	733,593	592,029	540,230	492,578
126.001	Supplies and materials	500,177	422,878	385,878	351,842
131.001	Equipment	2,100,743	1,804,278	1,646,415	1,454,293
199.001	Total Direct obligations	3,334,513	2,819,186	2,572,523	2,298,713
<b>Reimbursable obligations:</b>					
<b>Other services:</b>					
225.004	Other	11,882	4,788	3,759	3,759
226.001	Supplies and materials	9,101	3,420	2,685	2,685
231.001	Equipment	34,024	55,067	11,456	11,456
299.001	Total Reimbursable obligations	54,007	63,275	17,900	17,900
999.901	Total obligations	3,388,520	2,882,461	2,590,423	2,316,613

1-10 January 1987

AIRCRAFT PROCUREMENT, ARMY

Section 2

Budget Activity Justifications

Activity 1 - Aircraft

Activity 2 - Modification

Activity 3 - Spares and Repair Parts

Activity 4 - Support Equipment and Facilities

1-11 January 1987



Department of the Army		Appropriation		FY 1988/89	
Annual Budget Estimates		Aircraft Procurement, Army			
JUSTIFICATION					
Program or Budget Project Account		(Thousands of Dollars)			Budget
Budget Program - Activity 1, Aircraft.		Actual	Estimate	Estimate	Estimate
		FY 1986	FY 1987	FY 1988	FY 1989
		1,615,435	1,584,177	1,197,556	712,650
Direct Obligation or Direct Budget Plan					
Direct Obligation					

#### Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters, and associated aircraft armament, flight simulators and training devices and avionics equipment.

#### Section 2 - JUSTIFICATION OF FUNDS REQUESTED

##### Golden Knights Replacement - (P-1 Line Item 1).

(\$ in Thousands)  
 FY 1988  
FY 1989  
 \$13,599

In FY 1988, \$13.6 million is requested to competitively procure two, commercial type aircraft to be used by the U.S. Army Parachute Team, Golden Knights. Cost analysis evaluations confirm that procurement is more cost effective than the current leasing program which expires in April 1987.

(\$ in Thousands)  
 FY 1988  
FY 1989  
 \$194

##### Cessna Skylane - (P-1 Line Item 4).

In FY 1988, \$.2 million is requested to procure two Cessna-182 type aircraft which will replace the two T-41's currently being used by the U.S. Military Academy at West Point for its aviation training mission.

1-12 January 1987

	( \$ in Thousands )
FY 1988	
FY 1989	
<u>\$45,452</u>	<u>\$97,294</u>

RC-12D Reconnaissance Airplane - (P-1 Line Item 5).

In FY 1988, \$45.5 million is requested to procure three RC-12K reconnaissance aircraft and mission equipment. In FY 1989, \$97.3 million is requested to procure six additional RC-12D aircraft and the associated mission equipment. The Corps Signal Intelligence (SIGINT) GUARDRAIL Common Sensor Systems provide for full SIGINT support to include Electronic Intelligence capabilities for priority U.S. Army Corps.

	( \$ in Thousands )
FY 1988	
FY 1989	
<u>\$30,306</u>	<u>-</u>

EH-60A QUICK FIX Electronic Helicopter (Multiyear Procurement) - (P-1 Line Items 6 and 7).

The FY 1988 request includes \$20.7 million for the procurement of mission equipment associated with the EH-60A QUICK FIX helicopters. Additionally, \$9.6 million is requested for advance procurement of long leadtime engine, auxiliary power unit, and avionics components required to support the FY 1989 production. QUICK FIX utilizes the BLACK HAWK airframe to deploy on-board Electronic Warfare (EW) equipment designed to identify, locate, listen, and disrupt enemy command and control communications. In FY 1989, funds are requested to procure QUICK FIX aircraft and the associated mission avionics.

1-13 January 1987

( \$ in Thousands)  
 FY 1988  
 FY 1989  
\$654,585

AH-64 Attack Helicopter (APACHE) - (P-1 Line Items 8 and 9).

In FY 1988, \$642.3 million is requested for the procurement of 67 AH-64 APACHE attack helicopters. Additionally, in FY 1988, \$12.2 million is requested to procure three AH-64 Combat Mission Simulators designed to provide a training capability for flight and weapon delivery, normal and emergency procedures and sensor system operational tasks required in the operational helicopter. The APACHE is a twin-engine, two-place, fully integrated anti-armor weapon system capable of destroying tanks and other armored vehicles under day, night and adverse weather conditions. The aircraft employs the HELLFIRE (laser seeking) anti-tank missile, Hydra 70 rockets, and 30mm gun. Target acquisition is accomplished by the Target Acquisition and Designation Sight (TADS) which enables extremely accurate fires with high first round hit probability. Night navigation is provided by the Pilot Night Vision Sensor (PNVS). The mobility, flexibility, and rapid response of the AH-64 will provide the balance required to help counter the Warsaw Pact threat and allow the AH-64 to be a key member of the Rapid Deployment Force (RDF). In FY 1989, funding is requested for the procurement of AH-64 APACHE program support costs associated with production.

( \$ in Thousands)  
 FY 1988  
 FY 1989  
\$453,420 \$486,468

UH-60A BLACK HAWK (Multiyear Procurement) - (P-1 Line Items 10 and 11).

In FY 1988, \$453.4 million is requested for the procurement of 61 UH-60A BLACK HAWK helicopters and procurement of three UH-60 flight simulators. These funds include \$208.4 million for advance procurement of long leadtime items and engines required to support the follow-on multiyear procurement (FY 1988 - 1991) of airframes. The BLACK HAWK will modernize the Army's utility helicopter fleet. It will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintainability, and survivability at reduced overall operating costs. This utility helicopter is the Army's first true squad carrying helicopter and is powered by two T-700 engines. The Army initiated Multiyear Procurement (MYP) for the BLACK HAWK engine in FY 1982. Multiyear Procurement of the BLACK HAWK engine (FY 1986 - 1988) will save an estimated \$31.2 million during this period. A total of \$486.5 million is requested in FY 1989 for procurement of 72 UH-60A BLACK HAWK helicopters. Included is \$189.2 million for advance procurement of long leadtime engine and airframe components required to support FY 1989 production.

1-14 January 1987

Department of the Army		Appropriation		FY 1988/89	
Annual Budget Estimates		Aircraft Procurement, Army			
JUSTIFICATION					
Program or Budget Project Account		(Thousands of Dollars)		Budget	
Budget Program - Activity 2, Aircraft		Actual	Estimate	Estimate	Estimate
Modifications.		FY 1986	FY 1987	FY 1988	FY 1989
Direct Obligation or Direct Budget Plan		656,512	503,425	608,308	789,653
Direct Obligation					

#### Section 1 - PURPOSE AND SCOPE

Provides for modification of items and upgrade of equipment procured by the Aircraft Procurement, Army appropriation, including modification kits. Installation costs are not included unless the manufacturer, provides parts and labor under a single contract (excluding normal Government Furnished Equipment (GFE) and this results in an end item reconfigured to a new series designation or new operational capability.

#### Section 2 - JUSTIFICATION OF FUNDS REQUESTED

	( \$ in Thousands)
FY 1988	FY 1989
<u>\$17,484</u>	<u>\$31,612</u>

#### OV-1 Surveillance Airplane (MOHAWK) - (P-1 Line Item 12).

The \$17.5 million requested in FY 1988 provides support for the block improvement program. These funds also procure hardware for two safety product improvements (stall warning and improved deicing) for the entire fleet. FY 1989 funding, \$31.6 million is requested for production of block improvements on the aircraft and engine upgrade modifications.

1-15 January 1987

	( \$ in Thousands)
FY 1988	FY 1989
\$3,174	\$7,508

Airplane, Reconnaissance, RU-21H - (P-1 Line Item 13).

In FY 1988, \$3.2 million is requested for the RU-21H GUARDRAIL V aircraft to upgrade the avionics and electrical components of an aircraft that will remain active well into the 1990's. In FY 1989, \$7.5 million continues the avionics modifications on the RU-21H.

	( \$ in Thousands)
FY 1988	FY 1989
-	\$12,489

RV-1 Reconnaissance Airplane - (P-1 Line Item 14).

In FY 1989, \$12.5 million is requested for block improvements to the RV-1D which will incorporate a control and display system in the cockpit and increase the structural life of the airframe.

	( \$ in Thousands)
FY 1988	FY 1989
-	\$29,271

AH-1S Attack Helicopter (COBRA-TOW) - (P-1 Line Item 15).

A total of \$29.3 million is requested in FY 1989 for the COBRA-NITE program. The C-NITE program will begin procurement and installation on the COBRA providing a thermal night sight and TOW II guidance electronics.

( \$ in Thousands )  
 FY 1988      FY 1989  
\$78,751    \$44,030

AH-64 APACHE Modifications - (P-1 Line Item 16).

In FY 1988, \$78.8 million is requested for the procurement modifications for the Airborne Target Handover System, Integrated Flight Information Data System, wire strike protection, and incorporation of the Air-to-Air Stinger on the AH-64. In FY 1989, \$44.0 million will continue the modifications on the airborne target handover system, integrated flight information data system, and incorporation of the Air-to-Air Stinger system on the AH-64.

( \$ in Thousands )  
 FY 1988      FY 1989  
\$231,917    \$265,387

CH-47 Cargo Helicopter (Multiyear Procurement) - (P-1 Line Items 17 and 18)

A total of \$231.9 million is requested in FY 1988 for continuation of the CH-47D modernization program and for fleet modifications. The CH-47 Modernization program includes improvements to the current CH-47A, B, C fleet to modernize it to the greatly improved CH-47D configuration. Modifications include new fiberglass rotor blades; new engines; new transmission and drive system; modularized hydraulics; new electrical systems; advanced flight control system; triple hook cargo system and a new auxiliary power unit. These improvements increase the aircraft capability for lift and endurance and extend the useful life of the fleet beyond the year 2000. The features greatly enhance reliability, maintainability, productivity, survivability and safety of the Active Army's only medium-lift cargo helicopter. In FY 1989, \$265.4 million is requested for continuation of the fleet modernization to the improved CH-47D configuration. Funding also permits the continuation of the T-55-L-11D engine conversion to the T-55-L-712 configuration. Advance procurement for FY 1988 and FY 1989 is \$63.6 million and \$83.8 million, respectively. This program is a multiyear procurement beginning in FY 1985 and continuing through FY 1989. Advanced procurement in FY 1989 will support a new multiyear contract for the FY 1990-1992 program.

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(\$ in Thousands)	
FY 1988	FY 1989
\$37,011	\$80,428

OH-58 Observation Helicopter (KIOWA) - (P-1 Line Item 20).

In FY 1988, \$37.0 million is requested for modifications on the OH-58 helicopter. The Army has no plans to procure any OH-58's in the future. The OH-58 fleet consists of over 1,800 aircraft and these aircraft are projected to be retained past 2000. Modification efforts include engine upgrades and the installation of Air-to-Air Stinger (ATAS) missile. In FY 1989, \$80.4 million is requested to continue the engine upgrade and the ATAS, and to initiate Nap-of-the-Earth (NOE) communications upgrades and laser warning upgrades.

(\$ in Thousands)	
FY 1988	FY 1989
\$9,416	\$8,347

UH-1 Utility Helicopter (IROQUOIS) - (P-1 Line Item 21).

A total of \$9.4 million is requested in FY 1988 to continue the hub spring modification to reduce the possibility of mast bumping and initiate incorporation of both SINGGARS radio and a light weight multi-band transceiver (AN/ARC-186). In FY 1989, \$8.3 million continues the SINGGARS and AN/ARC-186 modifications.

(\$ in Thousands)	
FY 1988	FY 1989
\$33,798	\$33,612

UH-60A (BLACK HAWK) Mods - (P-1 Line Item 22).

A total of \$33.8 and \$33.6 million is requested in FY 1988 and FY 1989, respectively, to continue retrofitting fielded UH-60 BLACK HAWKs with provisions to accommodate the External Stores Support System (ESSS). ESSS provides the Army with a self-deployment and extended range capability in support of the Rapid Deployment Force mission. Other improvements include the installation of the Hover Infrared Suppressor System, and Wire Strike Protection System, SINGGARS/Remote 186, SINGGARS Radio, the APU particle separator, Flight Data Recorder, NOE Communications HF/VHF and other modifications associated with the UH-60 aircraft.

(\$ in Thousands)	
FY 1988	FY 1989
\$48,100	-

Army Helicopter Improvement Program (AHIP) - (P-1 Line Items 23 and 24).

In FY 1988, \$48.1 million completes the AHIP program modifications to procure ground support equipment and test, measurement diagnostic equipment to support fielding of the aircraft.

(\$ in Thousands)	
FY 1988	FY 1989
\$972	\$2,732

Airborne Avionics - (P-1 Line Item 25).

The \$1.0 million requested in FY 1988 will provide airborne avionics modifications and the initiation of upgrades for the tactical approach radar. \$2.7 million in FY 1989 will continue these product improvement programs.

(\$ in Thousands)	
FY 1988	FY 1989
\$96	\$13,050

Aircraft Survivability Equipment (ASE) Modifications Close Combat - (P-1 Line Item 26).

In 1988, \$.1 million funds the kits necessary to adapt all of the 3054 IP-1150 cockpit displays in the Army fleet to interface with the new AN/APR-39A Radar Warning Receiver (RWR). The new AN/APR-39A RWR is a digital, alphanumeric, voice warning system with extended frequency coverage. Resources in FY 1989 provide for modification of the AN/ALQ-144 and M-130 secure lighting.

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	( \$ in Thousands)
FY 1988	FY 1989
\$25,797	\$23,978

Aircraft 9WW - (P-1 Line Item 28).

A total of \$25.8 million is requested in FY 1988 and \$24.0 million in FY 1989 for specialized aviation of a classified nature.

	( \$ in Thousands)
FY 1988	FY 1989
\$121,792	\$237,209

Special Operations Forces (SOF) Modifications - (P-1 Line Item 29).

A total of \$121.8 million for FY 1988 will be used to procure initial long lead items for use on production of aircraft. The \$121.8 million requested for FY 1988 will be used to procure components, material and equipment needed to initiate modification of Special Operations Forces aircraft and to acquire support equipment. The Special Operations Forces (SOF) Aircraft Modifications program provides for necessary modifications to upgrade MH-60X and MH-47E helicopters to configurations necessary to conduct precision navigation, extended range operations at tactical altitudes through unfamiliar mountainous terrain in support of special operations forces. In FY 1989, \$237.2 million further continues this modification effort with \$104.0 million required for mods to MH-60X and \$133.2 million required for the MH-47E.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1988/89	
	Aircraft Procurement, Army			
	(Thousands of Dollars)		Budget	
	Actual	Estimate	Estimate	Estimate
Program or Budget Project Account	FY 1986	FY 1987	FY 1988	FY 1989
Budget Program - Activity 3, Spares and Repair Parts	732,662	558,599	512,122	553,069
Direct Obligation or Direct Budget Plan				
Direct Obligation				

#### Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot repairable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

#### Section 2 - JUSTIFICATION OF FUNDS REQUESTED

( \$ in Thousands)

FY 1988	FY 1989
512,122	553,069

#### Spares and Repair Parts - (P-1 Line Item 30).

Initial Spares: A total of \$154.3 million is requested in FY 1988 and \$96.9 million in FY 1989 to procure spares and repair parts in support of initial fielding of new or modified systems. These funds also support the procurement of aircraft engines and engine modules over the life cycle of the aircraft. Spares are an integral part of the development of any aircraft system (new procurement or modification). Initial spares are ordered to support the major item delivery and fielding schedule to preclude grounding the system for lack of spare parts. Aircraft end items supported in FY 1988/1989 are:

	(Dollars in Millions)			(Dollars in Millions)	
	FY 88	FY 89		FY 88	FY 89
AH-64	\$ 92.8	\$ 44.0	OV-1	\$ -	\$ .7
UH-60A	26.7	13.2	AH-1S	7.2	.4
EH-60A	-	5.8	CH-47	5.4	1.8
RC-12D	9.7	8.8			
			Ground Support Equipment	\$ 1.7	\$ .9
			Night Vision Goggles	6.4	18.4
			ASE & Avionics	3.6	2.2
			Air-to-Air Stinger		

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Replenishment Spares: A total of \$357.8 million is requested in FY 1988 and \$456.2 million in FY 1989. The peacetime replenishment spares support the Army's flying hour program, depot and pipeline requirements for the life of the system. War reserve spares provide initial combat surge support until resupply can be established.

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Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1988/89	
	Aircraft Procurement, Army			
			Budget	
Program or Budget Project Account	(Thousands of Dollars)			
Budget Program - Activity 4, Support Equipment and Facilities	Actual	Estimate	Estimate	Estimate
	FY 1986	FY 1987	FY 1988	FY 1989
Direct Obligation or Direct Budget Plan	272,345	108,649	155,973	174,167
Direct Obligation				

#### Section 1 - PURPOSE AND SCOPE

Provides for avionics support equipment including communications, position/navigation, survivability equipment and aviator night vision goggles; for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, special test and diagnostic equipment, fixed base airfield support equipment (air traffic control), and aviation life support equipment (ALSE); for tactical air traffic control systems; for industrial facilities including provisions for industrial facilities and depot maintenance plant equipment; and for war consumables including lightweight rocket launchers.

#### Section 2 - JUSTIFICATION OF FUNDS REQUESTED

	(\$ in Thousands)
FY 1988	FY 1988
\$80,692	\$97,968

#### Aircraft Survivability Equipment (ASE) (MYP) - (P-1 Line Items 31 and 32).

In FY 1988, \$80.7 million is requested for procurement of ASE warning receivers for the EH-1 Electronic Helicopter, OV-1D Surveillance Airplane and RC-12D Reconnaissance Airplane and will conclude the second year of an AN/APR-39A(V)1 radar warning receiver contract. In FY 1988 funds are also required to initiate a two year multiyear program to equip the entire Special Electronic Mission Aircraft (SEMA) fleet with the AN/ALQ-136 radar jammer. In addition, funds in FY 1988 procure 230 AN/ALQ-144A advanced jammers for the AH-1S Attack Helicopter fleet and 79 AN/ALQ-162 continuous wave radar jammers for the SEMA fleet. In FY 1989, \$98.0 million continues the procurement of these support systems and facilities on the EH-1, OV-1D and SEMA fleet.

1-23 January 1987

(\$ in Thousands)	
FY 1988	FY 1989
\$23,563	\$22,230

Avionics Support Equipment - (P-1 Line Item 33).

The FY 1988 request for \$23.6 million is allocated for aviation night vision goggles. The FY 1989 program will continue the procurement of these items.

(\$ in Thousands)	
FY 1988	FY 1989
\$28,125	\$38,723

Common Ground Equipment - (P-1 Line Item 34).

A total of \$28.1 million is requested in FY 1988 and \$38.7 million in FY 1989 for procurement of Sets, Kits, and Outfits; Aviation Ground Support Equipment; Aviation Life Support Equipment, Airfield Support Equipment; Survival Radio Equipment and individual items costing less than \$2.0 million. Sets, Kits, and Outfits are required to fill shortages, replace obsolete equipment and to continue implementation of the three level maintenance concept. Aviation Ground Support Equipment provides for the acquisition of aircraft ground power units, vibrex analyzers, test equipment. Other Airfield Support Equipment is required to maintain the fixed base air traffic control capability at Army airfields/heliports by replacing aging or obsolete equipment. Items less than \$2.0 million contains a grouping of test equipment for the maintenance of avionics Aviation Life Support Equipment includes items oriented on improving crew member survivability in an NBC environment or aircraft crash.

(\$ in Thousands)	
FY 1988	FY 1989
\$2,885	-

Air Traffic Control - (P-1 Line Item 35).

A total of \$2.9 million is requested in FY 1988 to continue the procurement of tactical Air Traffic Control (ATC) systems to fill critical shortages of equipment in both Active and Army National Guard units. The FY 1988 request funds: \$.6 million for night vision goggle tactical airfield lighting sets, \$1.7 million for tactical control towers and \$.6 million for tactical non directional beacons.

(\$ in Thousands)	
FY 1988	FY 1989
\$17,640	\$12,179

Industrial Facilities - (P-1 Line Item 37).

The \$17.6 million requested in FY 1988 is for support of the Army Aviation Program Industrial Facilities. It includes \$12.0 million for rehabilitation and provision of industrial equipment, \$4.7 million for depot maintenance plant equipment (DMPE) and \$.9 million for the value engineering program. The \$12.2 million requested in FY 1989 includes \$6.9 million for rehabilitation and provision of industrial equipment, \$4.3 million for depot maintenance plant equipment (DMPE) and \$1.0 million for the value engineering program.

(\$ in Thousands)	
FY 1988	FY 1989
\$3,068	\$3,067

War Consumables - (P-1 Line Item 38).

In FY 1988 \$3.1 million is requested for Hydra 70 (2.75 inch) Lightweight Rocket launchers to be used on the AH-1 COBRA/TOW and AH-64 attack helicopters. These launchers are required in order to fire the new family of Hydra 70 rockets with remote set fuzing options. Resources requested in FY 1989 will continue this program.

1-25 January 1987

AIRCRAFT PROCUREMENT, ARMY

Section 3

Comparison of Program Requirements and Financing

Comparison of FY 1987 program requirements as reflected in FY 1987 budget with FY 1987 program requirements as shown in FY 1988/89 budget.

Comparison in FY 1987 financing as reflected in FY 1987 budget with FY 1987 financing as shown in FY 1988/89 budget.

Comparison of FY 1986 program requirements as reflected in FY 1987 budget with FY 1986 program requirements as shown in FY 1988/89 budget.

Comparison of FY 1986 financing as reflected in FY 1987 budget with FY 1986 financing as shown in FY 1988/89 budget.

1-26 January 1987

COMPARISON OF FY 1987 PROGRAM REQUIREMENTS  
AS REFLECTED IN FY 1987 BUDGET WITH  
FY 1987 PROGRAM REQUIREMENTS AS SHOWN IN FY 1988/89 BUDGET  
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation Aircraft Procurement, Army	Total Program Requirements Per FY 1987 Budget	Program Requirements Per FY 1988/89 Budget	Increase (+) or Decrease (-)
Activity 1 - Aircraft	1,730,700	1,584,177	-146,523
Activity 2 - Modification of Aircraft	662,600	503,425	-159,175
Activity 3 - Spares and Repair Parts	710,500	558,599	-151,901
Activity 4 - Support Equipment and Facilities	160,900	108,649	-52,251
TOTAL	3,264,700	2,754,850	-509,850

Explanation by Activity

Activity 1 - Aircraft - Net decrease is due to Congressional actions and Internal Army adjustments that decreased EH-60A (-\$25,400), AH-64 (-\$185,800), and UH-60A (-\$22,200). These reductions were offset by Congressional increase to C-12 (+\$11,700) and the C-20 (+\$40,000). The FY 88 program also reflects the transfer of simulators from Activity 4 to Activity 1 (+\$35,200).

Activity 2 - Modification of Aircraft - Net increase is due to Congressional actions and Internal Army adjustments that decreased OV-1 (-\$15,100), AH-1S (-\$35,600), AH-64 Mods (-\$800), CH-47 (-\$11,100), UH-1 (-\$100), UH-60 Mods (-\$200), AHIP (-\$63,600), ASE Mods Close Combat (-\$100), 9MW (-\$300), and SOF (-\$3,500). Additionally the Air-to-Air Stinger is transferred to the major aircraft lines (-\$28,800).

Activity 3 - Spares and Repair Parts - Net increase is due to decrease in replenishment and initial provisioning spares (-\$151,900).

Activity 4 - Support Equipment and Facilities - Net decrease is due to decreases to Aircraft Survivability Equipment (-\$300), Avionics Support Equipment (-\$13,000), Common Ground Equipment (-\$700), Air Traffic Control (-\$100), Industrial Facilities (-\$400), and War Consumables (-\$100). The Synthetic Flight Training System is transferred to the major aircraft lines (-\$37,700).

1-27 January 1987



COMPARISON OF FY 1987 FINANCING AS REFLECTED  
IN THE FY 1987 BUDGET WITH FY 1987 FINANCING  
AS SHOWN IN FY 1988/89 BUDGET

Appropriation	(In Thousands of Dollars)		
	Financing Per FY 1987 Budget	Financing Per FY 1988/89 Budget	Increase (+) or Decrease (-)
Aircraft Procurement, Army			
Program Requirements, (Total)			
Program Requirements (Service Account)	3,340,300	2,798,650	-541,650
Program Requirements (Reimbursable)	(3,264,700)	(2,754,850)	(-509,850)
Less:	(75,600)	(43,800)	(-31,800)
Anticipated reimbursements	-75,600	-43,800	+ 31,800
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred to other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	3,264,700	2,754,850	-509,850
Appropriation	3,264,700	2,754,850	-509,850

EXPLANATION OF CHANGES IN FINANCING

Net decrease to budget authority is due to Congressional actions taken on the FY 1987 Budget Request and a lesser FY 1987 reimbursable program due to a reduction in the non Foreign Military Sales spares program from the FY 1987 President to the FY 1988/1989 Budget.

1-28 January 1987

COMPARISON OF FY 1986 PROGRAM REQUIREMENTS  
AS REFLECTED IN FY 1987 BUDGET WITH  
FY 1986 PROGRAM REQUIREMENTS AS SHOWN IN FY 1988/89 BUDGET  
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation		Total Program Requirements		Program Requirements		Increase (+) or Decrease (-)
Aircraft Procurement, Army		Per FY 87 Budget		Per FY 1988/89 Budget		
Activity 1 - Aircraft						
Activity 2 - Modification of Aircraft			1,694,000		1,615,435	-78,565
Activity 3 - Spares and Repair Parts			726,100		656,512	-69,588
Activity 4 - Support Equipment and Facilities			814,300		732,662	-81,638
			289,800		272,345	-17,455
TOTAL			3,524,200		3,276,954	-247,246

Explanation by Activity

Activity 1 - Aircraft - Net decrease is due to decreases to the AH-64 (-\$46,600), UH-60 (-\$23,900), EH-60 (-\$7,500) and C-12 (-\$600).

Activity 2 - Modification of Aircraft - Net decrease is due to increases to the OH-58 (+\$27,700), UH-60 Mods (+\$19,200), airborne avionics (+\$700) and Modifications under \$2.0 million (+\$300); offset by decreases to OV-1 (-\$3,400), AH-1S (-\$35,400), CH-47 (-\$68,500), UH-1 (-\$100), AHIP (-\$9,300), and 9MW (-\$800).

Activity 3 - Spares and Repair Parts - Net decrease is due to decrease in replenishment and initial provisioning spares (-\$81,600).

Activity 4 - Support Equipment and Facilities - Net decrease is due to increases to the Common Ground Equipment (+\$8,200) offset by decreases to Avionics Support Equipment (-\$17,600), Air Traffic Control (-\$400), Industrial Facilities (-\$3,200), War Consumables (-\$300) and Synthetic Flight Training Systems (-\$4,200).

1-29 January 1987

COMPARISON OF FY 1986 FINANCING AS REFLECTED  
IN THE FY 1987 BUDGET WITH FY 1986 FINANCING  
AS SHOWN IN FY 1988/89 BUDGET

	(In Thousands of Dollars)		
	Financing Per FY 1987 Budget	Financing Per FY 1988/89 Budget	Increase (+) or Decrease (-)
Appropriation			
Aircraft Procurement, Army			
Program Requirements, (Total)	3,608,000	3,342,257	-265,743
Program Requirements (Service Account)	(3,524,200)	(3,276,954)	(-247,246)
Program Requirements (Reimbursable)	(83,800)	(65,303)	(-18,497)
Less:			
Anticipated Reimbursements			
Offsetting collections from Federal Trust and non-	-83,800	-65,303	+18,497
Federal sources			
Reprogramming from prior year budget plans		-27,740	-27,740
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred to other accounts			
Add:			
Reprogramming to prior year budget plans			
Unobligated balance transferred to other accounts			
Unobligated balance lapsing		92,600	+92,600
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	3,524,200	3,341,814	-182,386

**BUDGET AUTHORITY**

Appropriation	3,524,200	3,351,514	-172,686
Transferred to other accounts(-)		-9,700	-9,700
Appropriation (adjusted)	3,524,200	3,341,814	-182,386

EXPLANATION OF CHANGES IN FINANCING

The net decrease to budget authority is due to Congressional reductions to aircraft programs (Gramm-Rudman-Hollings); an FY 1986 reprogramming action for the Air-to-Air Stinger program; an increase over the FY 1987 budget in collections results from a lesser spares program reimbursement; and \$+92,600 results from unobligated balances to the FY 1986 program to be used for subsequent years budget plans.

1-30 January 1987

AIRCRAFT PROCUREMENT, ARMY

Section 4

Status of Aircraft Modification Programs

1-31 January 1987

# Status of Aircraft Modification Program

## FY 1985 Modification Programs

Programs as of 30 November 1986 (\$ Million)

<u>Program</u>	<u>Appropriated</u>	<u>Reprogramming</u>	<u>Total Program Value</u>	<u>Total Obligations</u>	<u>Total Disbursements</u>
Airplane, Surveillance, OV-1	20.1	7.2	27.3	27.0	7.2
Airplane, Reconnaissance, RC-12D	7.7	- 1.5	6.2	5.9	.3
Airplane, Reconnaissance, RV-1	6.4	- 2.6	3.8	3.4	-
Helicopter, Attack, AH-1S	68.3	+ 2.0	70.3	48.4	14.7
Helicopter, Cargo, CH-47	403.0	-24.6	378.4	366.5	245.5
Helicopter, Electronic, EH-1	2.1	+ 1.4	3.5	3.5	.9
Helicopter, Observation, OH-58	38.3	- 2.3	36.0	10.7	.7
Helicopter, Utility, UH-1	1.8	+ 4.9	6.7	5.4	2.0
Army Helicopter Improvement Program (AHIP)	197.9	+ 8.5	206.4	206.2	113.4
Airborne Avionics	6.6	+ 3.2	9.8	9.7	1.2
Aircraft 9WW	58.1	+ 9.9	68.0	67.0	37.8
Modifications under \$900,000	.1	+ .1	.2	.2	.1
UH-60A Mods	5.7	+ 9.8	15.5	15.3	12.0

1-32 January 1987

# Status of Aircraft Modification Program

## FY 1986 Modification Programs

Programs as of 30 November 1986 (\$ Million)

<u>Program</u>	<u>Appropriated</u>	<u>Reprogramming</u>	<u>Total Program Value</u>	<u>Total Obligations</u>	<u>Total Disbursements</u>
Airplane, Surveillance, OV-1	19.6	- .1	19.5	18.3	.6
Airplane, Reconnaissance, RC-12D	-	+ .1	.1	-	-
Airplane, Reconnaissance, RV-1	-	+ .1	.1	-	-
Helicopter, Attack, AH-1S	112.9	-12.7	100.2	8.5	.2
Helicopter, Cargo, CH-47	296.0	-15.7	280.3	271.0	4.2
Helicopter, Cargo, CH-54	.5	-	.5	-	-
Helicopter, Utility, UH-1	11.1	+ .7	11.8	4.7	-
Army Helicopter Improvement Program (AHIP)	167.7	+10.5	178.2	176.8	8.2
Airborne Avionics	1.0	+ .7	1.7	.3	-
Aircraft 9WW	15.5	- 3.5	12.0	9.3	.7
Modifications under \$900,000	.1	+ .2	.3	.1	-
UH-60A Mods	12.9	+ 9.9	22.8	22.0	1.9

1-33 January 1987

# Status of Aircraft Modification Program

## FY 1987 Modification Programs

Programs as of 30 November 1986 (\$ Million)

Program	Appropriated	Reprogramming	Total Program Value	Total Obligations	Total Disbursements
Airplane, Surveillance, OV-1	9.8	- .2	9.6	-	-
Airplane, Reconnaissance, RV-1	2.6	-	2.6	-	-
Helicopter, Attack, AH-1S	25.4	- .3	25.1	-	-
Helicopter, Cargo, CH-47	256.0	-2.7	253.3	212.1	-
Helicopter, Cargo, CH-54	1.3	- .1	1.2	-	-
Ground Proximity Warning System	6.9	- .4	6.5	-	-
Helicopter, Utility, UH-1	6.2	- .1	6.1	-	-
Army Helicopter Improvement Program (AHIP)	146.7	-	146.7	-	-
Airborne Avionics	.1	-	.1	-	-
Aircraft 9WW	11.7	-	11.7	-	-
Modifications under \$2.0M	.1	-	.1	-	-
UH-60A Mods	7.5	+4.1	11.6	-	-
AH-64 Mods	32.6	- .3	32.3	-	-
ASE Mods Close Combat	3.4	-	3.4	-	-

1-34 January 1987

AIRCRAFT PROCUREMENT, ARMY

Section 5

Flight Simulator Procurement Program

Exhibit PB-32E

Exhibit P-43

1-35 January 1987



FLIGHT SIMULATOR DATA SHEET  
FY 1988/1989 Budget Estimate

Simulator Model: UH-60 Flight Simulator (2B38)

Aircraft System Supported: UH-60A BLACK HAWK

Description of Simulator: The production UH-60 BLACK HAWK Flight Simulator consists of a single cockpit mounted on a six degree-of-freedom motion system which is computer controlled. The design baseline for the simulator cockpit configuration and system performance is UH-60A aircraft number 82-23748. The cockpit is an exact replica of the design base aircraft from the trainee station forward. The Army Tactical Digital Image Generator (ATACDIG) produces the visual scene presented to the pilot and copilot.

The simulator is designed to provide institutional and unit continuation training in normal operating and emergency procedures and tactical operations. To simulate a tactical combat environment the ATACDIG visual system provides interactive ground and air moving threat vehicles. The simulator can train: low level, contour, NOE, confined areas, pinnacle operations, sling loads, and formation flight.

Development Status: Program provides for 15 production units plus the retrofit of one prototype unit with contract award for units with 13-15 in October 1987.

<u>Funding Data:</u> (In Millions)	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>
Quantity	(3)	(3)	(3)	-
Procurement (Aircraft)	\$37.4	\$35.2	\$44.5	-

Basis for FY 1988 Request: Production of UH-60 simulators falls under a firm, fixed price contract, a five year conventional multiyear contract approved for prior year procurements.

Contract Data: The Basis for Issue is 15 production units plus the retrofit of 1 prototype unit (2 cockpits), with plans to upgrade previously procured simulators to support changes in the aircraft under a pre-planned product improvement program in FY 1988. FY 1985 units awarded in November 1984 and delivered in January 1988; FY 1986 units awarded in November 1985 and delivered in January 1989; FY 1987 units awarded in December 1986 and delivered in July 1989; and FY 1988 units awarded in October 1987 and delivered in January 1990.

Cost History Comparison: Program adjustments to FY 1986 are a result of inflation recalculations.

EXHIBIT PB-32E

1-36 January 1987

4/7

FLIGHT SIMULATOR DATA SHEET  
FY 1988/1989 Budget Estimate

Simulator Model: CH-47 Flight Simulator (2B31)

Aircraft System Supported: CH-47 Cargo Helicopter

Description of Simulator: The CH-47 Flight Simulator is designed to provide training in normal operating and emergency procedures. It consists of a trainee station with positions for pilot and copilot trainees and is an authentic replica of the aircraft. Included in the cockpit is an instructor station and an observer station. The instructor station design and arrangement was based upon human engineering analysis of instructor's duties and the requirement for an effective instructor/trainee interface. The cockpit is mounted upon a six degree-of-freedom motion system to provide roll, pitch, yaw, vertical, lateral, and longitudinal motion cues. A high resolution front and side visual system consisting of two 1000:1 scale three dimensional terrain models 56' long by 24' high and roving television cameras that are synchronized with cockpit control inputs which provide a display to each trainee that is viewed through the front and side windows. Each trainee has an additional display at the chin window location consisting of computer generated symbology which provides relative altitude and motion indications when maneuvering near the ground at designated landing sites. The entire trainer is stimulated by a DEC PDP 11/55 computer complex.

Development Status: Aircraft Procurement, Army funding provides for retrofit of 2 simulators in FY 1986.

<u>Funding Data:</u> (In Millions)	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>
Quantity (Retrofit)	(2)	-		
Procurement (Aircraft)	\$16.9	-		

Basis for FY 1988 Request: No FY 1988 resources are required.

Contract Data: Retrofitting in FY 1986 are contract options to sole source Firm Fixed Price contract awarded December 1985. FY 1986 contract option was awarded in December 1985 with delivery in March 1988.

Cost History Comparison: The FY 1986/1987 program remains unchanged from that approved by Congress.

EXHIBIT PB-32E

1-37 January 1987

FLIGHT SIMULATOR DATA SHEET  
FY 1988/1989 Budget Estimate

Simulator Model: AH-64 Combat Mission Simulator (2B40)

Aircraft System Supported: AH-64 Attack Helicopter (APACHE)

Description of Simulator: The prototype AH-64 Combat Mission Simulator will be designed to provide a training capability for flight and weapon delivery, normal and emergency procedures, and sensor system operating tasks required in the operational design basis helicopter. The simulator will consist of pilot and copilot/gunner trainee modules, instructor modules, motion subsystems, visual subsystems, and a computer complex. The pilot and copilot/gunner trainee modules will be replicas of the actual aircraft cockpits and each will be mounted on a six degree-of-freedom of motion base. The visual subsystem will provide a current state-of-the-art out-the-window scene and sensor imagery to each of the appropriate crew-member video displays. Simulated imagery includes Forward Looking Infrared (FLIR), Day Television (DTV), and Direct View Optics (DVO). Pilot displays consist of the Integrated Helmet and Display Sight System Helmet Display Unit (IHADSS HDU) and a panel mounted Video Display Unit (VDU). Gunner displays include the IHADSS HDU, a target acquisition and designation sight Heads Down Display (HDD), and a TADS Heads Out Display (HOD). The simulator will be operated through the computer complex which will fulfill subsystem interface requirements. The training functions will be controlled from the instructor's station located behind each trainee module. The pilot and copilot/gunner will have the capability to train individually or may train as a team performing an integrated combat mission.

Development Status: Six production devices in addition to the prototype are planned in the Basis of Issue Plan. The production devices will be similar to the prototype with plans in FY 1988 to upgrade all devices (visual systems and aircraft configuration) under a pre-planned product improvement program. Four units in FY 1986.

<u>Funding Data:</u> (In Millions)	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>
Quantity	(4)	-	(3)	
Procurement (Aircraft)	\$58.6	-	\$12.2	0
RDTE	\$ 5.5	0	0	0
Total	\$64.1	0	\$12.2	0

Basis for FY 1988 Request: In FY 1988, upgrade of devices (visual system and aircraft configuration) will be accomplished, along with the acquisition of three AH-64 Cockpit, Weapons Emergency Procedures Trainers (CWEPT).

Contract Data: Units 3-6 were awarded with FY 1986 aircraft procurement funds in December 1985 with delivery scheduled for December 1987. In FY 1988, CWEPT award is scheduled for January 1988 with delivery in January 1989.

Cost History Comparison: Prior and current year funding was reduced by changes to inflation from the approved Congressional baseline.

EXHIBIT PB-32E

1-38 January 1987

FY 88/89 BUDGET ESTIMATE

FLIGHT SIMULATOR AND OTHER AIRCRAFT TRAINING EQUIPMENT

EXHIBIT P-43

(Dollars in Millions)

APPROPRIATION: Aircraft Procurement, Army

<u>Weapon System</u>	<u>Equipment Nomenclature</u>	<u>P-1 Line Item</u>	<u>FY 1986 Qty/Amount</u>	<u>FY 1987 Qty/Amount</u>	<u>FY 1988 Qty/Amount</u>	<u>FY 1989 Qty/Amount</u>
CH-47 (2B31)(SSNA09100)	FS	18	- 16.9	- -	- -	- -
UH-60 (2B38)(SSNA09400)	FS	10	3 37.4	3 35.2	3 44.5	- -
AH-64 (2B40)(SSNA09000)	FWS	8	4 58.6	- -	- 12.2	- -

1-39 January 1987